

referral of only the more complex patients to vascular surgeons. If, as is already the case, vascular surgeons are treating only those vascular patients who require particular expertise, then the number of vascular surgeons required in South Africa can potentially be reduced in the interim. This does, however, imply that general surgeons who perform some of the standard vascular surgical procedures are adequately trained and that patient access to vascular surgeons is controlled but also unfettered. As already indicated, essentially this is already happening, particularly in rural South Africa, where no vascular surgeons are in practice. Outside of South Africa, where there are basically no vascular surgeons, this would be a substantial improvement compared with what is available presently.

The scope of vascular surgical practice in the above setting would need to be confined to specific conditions or treatment modalities. This undoubtedly would result in a heated debate but could readily be resolved using the following parameters:

- Evidence where the number of procedures performed by individuals and institution results in clinically significant changes to outcome.<sup>13,14</sup> Examples include carotid artery interventions, aortic aneurysm repair, and tibial artery bypasses.
- Where expensive and technically demanding technology is required. Endovascular therapy falls into this category.

The challenge will be to ensure that general surgeons are trained to a high standard in the other vascular surgical interventions. In the face of an already limited number of these individuals within the current setting, this will not be easy. In addition, the vascular surgeon's role in the noninvasive diagnosis of vascular disease will require re-evaluation.

## CONCLUSION

Southern Africa faces many health care challenges, including a near nonexistence of vascular surgeons treating an ever-increasing vascular disease burden. Presently these patients are being exposed to treatment modalities that are decades old, often with poor results. The solutions to this crisis are not easily found, particularly due to the economic constraints facing much of this region. As a result, innovation is essential in managing all aspects of vascular surgical training and practice. Apart from the obvious need to develop more vascular surgical training facilities, a redefinition of what the vascular surgical scope of practice is will result in more patients being exposed to appropriate levels

of care in the future. A close cooperation with general surgical practice and training is, however, essential to achieve this outcome. The separation of these two specialties into widely separate groupings both conceptually and politically as is suggested elsewhere,<sup>15</sup> is therefore not desirable in Southern Africa.

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## DISCUSSION

**Dr Jack Cronenwett** (Lebanon, NH). Does there appear to be any forthcoming governmental support to increase the number of training programs? It appears that the last three speakers have underlined the same problem: that is, lack of public funding support. So, what is your sense of this?

**Dr. Martin Veller.** Well, I think the first thing is that the

government, certainly the South African government, needs to be informed about these issues. The study that I mentioned in terms of the general surgical study is in fact probably informing the government about the needs for training in all aspects of specialization, never mind in general surgery. So it really is the groundbreaker in that situation, and I think that there is a long way to go there.